

Appl. No.: 10/088,731

Response dated April 17, 2008

Reply to Office action of December 18, 2007 and Advisory Action dated April 7, 2008

### **REMARKS**

The Advisory Action dated April 7, 2008 entered Applicants' Amendment dated March 18, 2008. Applicants express their appreciation to the Examiner for entering the Amendment into the record.

#### **Claim Status**

Claims 12-14, 17-20 and 23-31 are pending. The rejection of Claims 12-14, 24, and 26-28 under 35 U.S.C. Section 112, 2<sup>nd</sup> paragraph was withdrawn. Claims 12-14, 17-20, and 23-31 remain rejected under 35 U.S.C. Section 103(a).

Claims 12 and 18 have been amended to recite that the composition (surfactant mixture) exhibits foam stability and reduced irritation as compared with component (a) alone (an alkyl and/or alkenyl oligoglycoside). Basis is provided in the specification at page 2, lines 15-17 and at pages 25-26 at the Examples and Data demonstrated at Table 1.

In the Advisory Action, the Examiner stated that "the instant claims do not recite that argued limitation of foam stability as a positive limitation."

The amendments to Claims 12 and 18, to the composition and process, respectively, address the Examiner's remarks.

#### **Rejection under Section 103**

Claims 12-14, 17-20 and 23-31 are rejected under Section 103 as being obvious over the teachings of US 3, 623, 887 ('887) in combination with JP 09308822 ("JP"). The rejection is respectfully traversed.

It is respectfully submitted that the combined teachings of '887 and JP would not direct one of skill in the art to arrive at the claimed compositions.

'887 discloses that the addition of a small amount of a C12-24 fatty alcohol ("fatty alcohol") improves the emulsifying properties of three generic classes of aliphatic

esters. See Column 1, lines 15-30 of '887. The Examiner recognizes that '887 does not teach component (a) of the present claims.

The Examiner cites JP for its teaching of oligoglycosides in combination with polyglycerol esters for obtaining "fine emulsions and also good emulsion stability."

According to the Examiner then, it would have been obvious to one of skill in the art "to use the alkyl oligoglycoside of JP in the food composition containing dicarboxylic acid esters of fatty alcohols of US '887 **because '887 teaches the monoesters of dicarboxylic acids enhance the emulsification of the food composition** and JP also teaches the alkyl oligoglucosides for enhanced emulsification." (Emphasis added.)

The Examiner's description of the teachings of '887 is not quite accurate. '887 does not teach that monoesters of dicarboxylic acids enhance emulsification. Rather, '887 teaches that the addition of fatty alcohol to such acid esters enhances the emulsification properties of the acid esters as described hereinafter.

'887 at Column 1, lines 38-44 teaches that:

"More particularly, **the invention is that of emulsification mixtures** containing one or more of any certain three different types of emulsifying esters **enhanced by the admixture of a very small amount of a monohydric fatty alcohol having about 12 to about 24 carbons...**"  
(Emphasis added.)

Thus, the teaching of '887 is that the addition of small amounts of a fatty alcohol to monoesters of dicarboxylic acids enhances the emulsifying properties of such dicarboxylic acid esters.

At Column 4, lines 17-37, '887 further describes that:

" According to the invention, it was found that when a very small quantity...**of any of the particular fatty alcohols (earlier above described as the first required ingredient of the fatty alcohol-enhanced emulsification mixtures)** is admixed with... one or more of

any of the three different types (a), (b) and (c)...of the ester substances constituting the second required ingredient...**unexpected advantages and improvements occur** in one or more of the physical characteristics and quality of the resulting yeast-leavened baked products beyond that expected from the mere additive result of the respective quantities used of the fatty alcohol ingredient and the ester ingredient. **Such results indicate that there is an apparent synergistic effect from the joint use of the admixed fatty alcohol and the ester ingredients.**" (Emphasis added).

One of skill in the art is thus taught by '887 that the addition of fatty alcohol to different types of esters enhances synergistically the emulsifying properties of the esters.

There would therefore be no motivation for one of skill in the art to substitute the required, synergistic-acting fatty alcohol in the emulsification composition of '887 with the alkyl oligosaccharide of JP, as alleged by the Examiner.

A fatty alcohol and an alkyl oligosaccharide are different chemical classes of compounds. So, one of skill in the art would have no motivation to substitute the fatty alcohol of '887 with the alkyl oligosaccharide of JP in the composition of '887.

The Examiner's proposed combination of '887 and JP in an effort to arrive at the claimed invention is based on improper hindsight reconstruction of Applicants' invention.

The combined teachings of '887 and JP do not direct one of skill in the art to add a dicarboxylic acid monoester to an alkyl and/or alkenyl oligoglycoside in order to enhance the foaming properties of and to reduce the irritation caused by alkyloligoglycosides.

There is nothing in the combined disclosures of the prior art that teaches or suggests the claimed invention.

It is therefore respectfully submitted that there is no *prima facie* case of obviousness of the claimed invention in view of the combination of '887 and JP.

In addition, the data at Table 1 rebuts any alleged *prima facie* case of obviousness.

At page 1, lines 7-15 of the specification, alkyloligoglycosides are described as surfactants having adequate basic foaming ability. However, their foam stability (i.e. maintaining foaming) is poor.

At page 2, lines 8-21, the specification describes that the present invention provides compositions of (a) alkyl and/or alkenyloligoglycosides and (b) dicarboxylic acid monoesters and/or salts thereof, which compositions provide mucus membrane compatibility and **exhibit good foaming behavior and high foam stability in hard water**, even with high levels of fats in the water.

Thus, Applicants have discovered that the addition of dicarboxylic acid monoesters to alkyloligoglycosides significantly improves the foam stability of and reduces the irritation caused by alkyl oligoglycosides, as described in the specification.

By "foam stability" herein then is meant that **the ability to maintain foam is increased**. This is shown by the higher basic foam and foam height data at Table 1.

The compositions of the invention at Table 1 had basic foam and foam height values that were demonstrably **higher** than C1-C4 comparative examples. Further, the compositions of the invention also scored significantly lower irritation scores than C1-C4.

This is demonstrated by the data at Table 1 with "Foaming Capacity" and "Total Irritation scores."

The present invention thus provides compositions which desirably achieve higher foam values and lower irritation scores than the alkyloligoglycosides of the prior art.

It is therefore respectfully submitted that Applicants have demonstrated and correlated the data at Table 1 with the compositions of the invention, which

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compositions unexpectedly provide high foam stability (increased foaming capacity) and lower irritation than the alkyloligoglycosides and alkyloligoglycoside tartrate esters of the prior art.

Applicants are deserving of patent protection for their invention, which is an unobvious advance over the combined teachings of the prior art.

The Examiner is kindly requested to reconsider all of the arguments and supporting data demonstrating patentability discussed herein and withdraw the rejection.

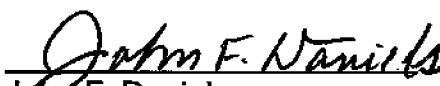
It is respectfully submitted that the present Amendment places Claims 12-14, 17-20 and 23-31 in condition for allowance.

Favorable consideration and a Notice of Allowance are respectfully solicited.

If the Examiner believes there are any remaining issues, the Examiner is kindly invited to contact the undersigned.

Respectfully submitted,

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